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ATTORNEY DOCKET NO. 10030747-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): John F. Casey, et al.

Serial No.: 10/600,600

Examiner: Bret P. Chen

Filing Date: June 19, 2003

Group Art Unit: 1762

Title: METHODS FOR DEPOSITING A THICKFILM DIELECTRIC ON A SUBSTRATE

COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on October 29, 2004.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$340.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

(a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)(1)-(5)) for the total number of months checked below:

- |                          |              |           |
|--------------------------|--------------|-----------|
| <input type="checkbox"/> | one month    | \$ 110.00 |
| <input type="checkbox"/> | two months   | \$ 430.00 |
| <input type="checkbox"/> | three months | \$ 980.00 |
| <input type="checkbox"/> | four months  | \$1530.00 |

The extension fee has already been filled in this application.

(b) Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 50-1078 the sum of \$340.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account 50-1078 pursuant to 37 CFR 1.25.

A duplicate copy of this transmittal letter is enclosed.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

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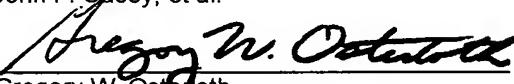
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Respectfully submitted,

John F. Casey, et al.

By

  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appl. No. : 10/600,600 Confirmation No. 5492  
Appellant : John F. Casey, et al.  
Filed : June 19, 2003  
TC/A.U. : 1762  
Examiner : Bret P. Chen  
  
Docket No. : 10030747-1

Board of Patent Appeals and Interferences  
United States Patent and Trademark Office  
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**APPEAL BRIEF**

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Board of Patent Appeals and Interferences  
United States Patent and Trademark Office  
PO Box 1450  
Alexandria, Virginia 22313-1450

**APPEAL BRIEF**

Dear Sir:

This Appeal Brief is submitted in response to the Examiner's Final Office Action dated July 29, 2004.

Appellants filed a Notice of Appeal on October 29, 2004.

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**Real Party in Interest**

The real party in interest is Agilent Technologies, Inc., a Delaware corporation headquartered in Palo Alto, California.

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Appeal Brief dated December 29, 2004  
Reply to Final Office Action of July 29, 2004

**Related Appeals and Interferences**

There are no related appeals and/or interferences.

### **Status of Claims**

Claims 1-12, 14-18 and 20 are pending. A copy of the claims is attached as an Appendix to this Appeal Brief.

The Examiner's Advisory Action dated October 14, 2004 states that, for purposes of Appeal, claims 1-12, 14-18 and 20 stand rejected. However, the Examiner's Advisory Action also indicates that all outstanding issues have been resolved, but for the issue regarding Appellants' use of trademarks or trade names in their claims. Because this issue only involves claims 9-11, 18 and 20, Appellants believe the Examiner's Advisory Action provides an erroneous status of their claims. The correct status is believed to be:

Claims 1-8, 12 and 14-17 stand allowed; and

Claims 9-11, 18 and 20 stand rejected.

Given this question regarding the status of their claims, Appellants herein assert an appeal from all of the Examiner's outstanding rejections.

### **Status of Amendments**

Applicants canceled claims 13 and 19 following the Examiner's final rejection of these claims. The Examiner has agreed to and entered this amendment, and thus, all amendments have been entered.

### **Summary of Claimed Subject Matter**

In one embodiment (claim 1), a method (par. [0011]; 100, FIG. 1) for depositing a thickfilm dielectric on a substrate commences with the deposition (par. [0013]-[0015]; 102, FIG. 1) of a first layer of thickfilm dielectric (202, FIG. 2) on the substrate (200, FIG. 2), followed by an air drying (par. [0016]; 104, FIG. 1) of the first layer to allow solvents to escape, thereby increasing the porosity of the first layer. The first layer is then oven dried (par. [0016]; 106, FIG. 1). Thereafter, additional layers of thickfilm dielectric (300, 302, 304, FIG. 3) are deposited on top of the first layer, with each layer being oven dried after it is deposited (par. [0017]; 108, FIG. 1). The deposited layers are then fired (par. [0018]; 110, FIG. 1).

**Grounds of Rejection to be Reviewed on Appeal**

1. Whether claims 1-8, 12 and 14-17 stand rejected or allowed.
2. Whether claims 9-11, 18 and 20 should be rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

## Argument

### 1. Whether claims 1-8, 12 and 14-17 stand rejected or allowed.

The Examiner's Advisory Action dated October 14, 2004 states that, for purposes of Appeal, claims 1-12, 14-18 and 20 stand rejected. However, the Examiner's Advisory Action also indicates that all outstanding issues have been resolved, but for the issue regarding Appellants' use of trademarks or trade names in their claims. Because this issue only involves claims 9-11, 18 and 20, Appellants believe the Examiner's Advisory Action provides an erroneous status of their claims. The correct status is believed to be:

Claims 1-8, 12 and 14-17 stand allowed; and  
Claims 9-11, 18 and 20 stand rejected.

### 2. Whether claims 9-11, 18 and 20 should be rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Claim 9-11, 18 and 20 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as their invention. Specifically, the Examiner states that, "[c]laims 9-10 and 18-19 contain the trademark/trade name KQ dielectric and KQ CL-90-7858." Specifically, the Examiner cites *Ex parte Simpson* and states that, "the claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product."

Pursuant to M.P.E.P. § 608.01(v):

Names used in trade are permissible in patent applications if: (A) Their meanings are established by an accompanying definition which is sufficiently precise and definite to be made a part of a claim, or (B) In this country, their meanings are well-known and satisfactorily defined in the literature. See M.P.E.P. § 608.01(v) (8<sup>th</sup> Ed. Rev. 2003).

Appellants assert that the limitations "KQ dielectric" and "KQ CL-90-7858" meet at least the second of the above requirements. As published on Heraeus Cermalloy's website, and in published papers, KQ dielectrics are glass dielectrics having a very low loss tangent (around  $10^{-4}$ ) and dielectric constant (around 3.9). Defining a dielectric as a KQ CL-90-7858 dielectric (as in claims 10 and 18) is even more definite, as KQ CL-90-7858 is not merely a trademark or trade name, but rather an identifier of a specific product having a specific composition.

The Examiner has suggested that the specification for KQ CL-90-7858 is not definite because it may be subject to change. However, such a change is contrary to industry practice, as the specifications and compositions of dielectrics are relied on by both engineers and manufacturers, and changes in a dielectric's specification can lead to unexpected, unintended or even disastrous results, as well as significant retooling costs for a manufacturer. If Heraeus Cermalloy were to determine that a change to the KQ CL-90-7858 would be desirable, Appellants would not expect Heraeus Cermalloy to change the specification for their KQ CL-90-7858 dielectric. Rather, Appellants would expect Heraeus Cermalloy to distribute a new dielectric under a new part number. This is the practice that is customary and expected in the industry.

In the case of *Ex parte Simpson*, 218 USPQ 1020 (1982), which the Examiner relies on, the court upheld the Examiner's claim rejections pursuant to 35 U.S.C. 112, second paragraph, where the claims contained the indefinite trademark "Hypalon." In that case the court stated:

"The claim scope is uncertain as regards the material which forms the "Hypalon" membrane. On the one hand, the claim language may be very narrowly construed to a particular chlorosulphonated ethylene having a specific group of additives employed by the owner of the "Hypalon" trademark to produce the desired properties, or on the other hand the claim language might be asserted by appellants, as it was in the unentered amendment filed July 27, 1978, to broadly encompass every *synthetic resin*."

The *Ex Parte Simpson* case was a rather unique case involving vague claim language which was made even more confusing by 1) applicants' use of Hypalon as a noun, and 2) applicants' attempt to argue that Hypalon encompassed a broader range of materials than indicated by Hypalon's manufacturer. Conversely, Appellants' claims 9, 10 and 18 use the terms "KQ dielectric" and "KQ CL-90-7858" in a proper manner, Appellants have not argued for inconsistent interpretations of these terms, and it is clear what range of materials (or material) is encompassed by each of these terms.

The unique nature of the *Ex Parte Simpson* case is readily apparent after reviewing *Ex Parte Jerry Kitten*, WL 33134953 (1999, unpublished opinion), wherein the Board of Patent Appeals declined to follow its holding in *Ex Parte Simpson*, reversing the Examiner's rejections and finding that the use of trademarks did *not* render claims unclear or confusing. *Ex Parte Jerry Kitten* found:

[b]ased on these product sheets and because claim 13 further limits the fertilizer used in claim 1 to a fertilizer prepared from these well-identified proprietary products, we do not find the use of the trademarks renders claim 13 unclear or confusing. Compare, *Ex Parte Simpson*, 218 USPQ 1020-23 (Pat. & Tdmk. Off. Bd. App. 1982). *Ex Parte Jerry Kitten*, 1999 WL 33134953 (Bd. Pat. App. & Interf.)

Similarly, Appellants' claims 9, 10 and 18 further limit their claims 1 and 17.

In response to Appellants' above position, the Examiner asserts that the descriptions of KQ dielectric and KQ CL-90-7858 dielectric published on Heraeus Cermalloy's website are not definite because websites are subject to change. Although it is true that websites are subject to change, it is not true that relied-upon compositions of materials are subject to change. Appellants believe Heraeus Cermalloy's published characteristics and/or compositions of these materials are relied upon by the industry and are not subject to change. Although Heraeus Cermalloy might introduce an additional KQ dielectric that fits under the KQ dielectric umbrella, Appellants do not believe that Heraeus Cermalloy would change their

general definition of KQ dielectric. Nor would Heraeus Cermalloy alter the composition of a dielectric that is specifically identified by a part number (i.e., KQ CL-90-7858). The Examiner's contentions otherwise are mere speculation that Appellants cannot address. Such speculation is believed inappropriate absent some positive belief on the Examiner's part that Heraeus Cermalloy would (or is likely to) take such actions.

As a final argument, Appellants note that in an Interview with the Examiner conducted by Appellants' Representative subsequent to the Examiner's issuance of his Advisory Action, the Examiner indicated that his art unit had adopted a policy of not allowing the use of any trademark in any claim. However, this policy is contrary to the Office's past and current practice. The Office issues a great many patents having claims that incorporate trademarks, trade names and composition part numbers. In fact, in conducting a brief online search for "KQ" in the claims of issued US patents, Appellants determined that the Office has issued a number of patents having claims that 1) recite KQ dielectrics in general, or 2) recite specific KQ dielectrics by part number.

In light of the above arguments, Appellants believe their claims 9-11, 18 and 20 are sufficiently definite and should be allowed.

Respectfully submitted,  
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## Claims Appendix

**Claim 1 (original): A method for depositing a thickfilm dielectric on a substrate, comprising:**

- a) depositing a first layer of thickfilm dielectric on the substrate;
- b) air drying the first layer to allow solvents to escape, thereby increasing the porosity of the first layer;
- c) oven drying the first layer;
- d) depositing additional layers of thickfilm dielectric on top of the first layer, oven drying after the deposition of each additional layer; and
- e) firing the deposited layers.

**Claim 2 (original): The method of claim 1, wherein the first layer is air dried for at least 45 minutes.**

**Claim 3 (original): The method of claim 1, wherein said oven drying of the first layer comprises oven drying at a peak temperature of about 150°C for about fifteen minutes.**

**Claim 4 (original): The method of claim 3, wherein said oven drying of the additional layers comprises oven drying at a peak temperature of about 150°C for about fifteen minutes.**

**Claim 5 (original): The method of claim 1, wherein said firing comprises firing at a peak temperature of about 850°C.**

**Claim 6 (original): The method of claim 1, further comprising measuring a dry print thickness of the deposited layers to determine if a desired final dielectric thickness will be achieved after the deposited layers are fired.**

**Claim 7 (original):** The method of claim 6, wherein the dry print thickness of the deposited layers is measured using one of a drop-gauge micrometer or stylus profilometer.

**Claim 8 (original):** The method of claim 6, wherein the dry print thickness of the deposited layers is measured using a drop-gauge micrometer.

**Claim 9 (original):** The method of claim 1, wherein the layers of thickfilm dielectric comprise a KQ dielectric.

**Claim 10 (original):** The method of claim 9, wherein the KQ dielectric is KQ CL-90-7858 dielectric.

**Claim 11 (original):** The method of claim 10, further comprising, after firing, grinding the deposited layers to a desired final dielectric thickness, and then refiring the deposited layers to smooth the ground surface and edges.

**Claim 12 (original):** The method of claim 1, wherein the layers of thickfilm dielectric comprise a glass dielectric.

**Claim 13 (canceled)**

**Claim 14 (original):** The method of claim 1, wherein the layers of thickfilm dielectric are deposited by printing the layers through a stainless steel screen having 200 mesh, 1.6 mil wire, .8 mil emulsion.

**Claim 15 (original):** The method of claim 1, further comprising depositing additional layers of thickfilm dielectric until a dry print thickness in excess of a desired dry print thickness is achieved, and then planarizing the deposited layers to a desired dry print thickness prior to firing the deposited layers.

**Claim 16 (original):** The method of claim 1, further comprising, after firing, grinding the deposited layers to a desired final dielectric thickness, and then polishing the ground surface.

**Claim 17 (original):** The method of claim 1, wherein the first layer is air dried for at least 45 minutes, wherein said oven drying of the first layer comprises oven drying at a peak temperature of about 150°C for about fifteen minutes, wherein said oven drying of each additional layer comprises drying at a peak temperature of about 150°C for about five minutes, and wherein said firing comprises firing at a peak temperature of about 850°C.

**Claim 18 (original):** The method of claim 17, wherein the thickfilm dielectric comprises KQ CL-90-7858 dielectric.

**Claim 19 (canceled)**

**Claim 20 (original):** The method of claim 18, further comprising, after firing, grinding the deposited layers to a desired final dielectric thickness, and then refiring the deposited layers to smooth the ground surface and edges.



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## **Evidence Appendix**

**None.**



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### **Related Proceedings Appendix**

None.